Remedial Action Work Plan

Site:
Rockaway Borough Well Field

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1.0 INTRODUCTION

This work plan (Plan) provides a description of the operations that are expected to take place on site during the first and second phase of the project. The overall project will include site setup, excavation of contaminated soils, Installation of a SVE System, Restoration of area, Disposal of contaminated soils and C&D deris. The installation of the SVE System will be performed by an Earth Tech subcontractor only the latter activity does not fall within the direct responsibility of the U.S. Environmental Protection Agency (EPA), the Plan will only address all other activities that will be performed by the EPA contractor. The selected subcontractor will provide a separate work plan to be included as an appendix to this Plan (Appendix A).

The EPA contractor's activities will be performed in two phases: Phase I activities will be performed Inside the structure at 2 Wall Street; Phase II of the project will involve similar activities outside the structure. This Plan is a working, dynamic document; as the situation changes it will be updated accordingly.

2.0 SITUATION

Task Order No. 0065 (TO 0065) was issued to Earth Tech Programs Management on October 01,2008, to perform the Statement of Work (SOW) under Contract No. EP-W-04-055. The scope of services assigned under TO 0065 will be strictly adhered to during the length of the project unless otherwise directed in writing by the EPA contracting officer. A work order will be written each day for the work to be performed by Earth Tech the subsequent day, and given to the Earth Tech project manager in advance for review and signature. If there are a number of days of identical activity, a work order may be issued by the EPA On-Scene Coordinator (OSC) to cover multiple days' work. The daily work order will serve as a guide to all required tasks, equipment, materials, and personnel, authorized by the OSC. The Response Manager (RM) will provide the OSC with a daily and or weekly progress report of all on-site activities performed.

2.1 Preliminary Planning

Preliminary planning for the Rockaway Borough Well Field project began with an initial site walk made with the OSC and the Earth Tech RM to discuss the logistics of setting up an operational field office trailer, providing subcontracting services by a qualified soil vapor extraction system (SVE) contractor and the mobilization of equipment and Earth Tech personnel necessary to perform ordered tasks as specified under TO 0065. Other preliminary plans will be further discussed in detail during scheduled meetings and correspondence with the OSC and the Corps of Engineers Project Manager assigned to the Rockaway project.

2.2 Permits

The EPA will direct Earth Tech on any permits that they require.

2.3 Access Agreements

The EPA OSC, with the assistance of its Removal Support Team (RST), will contact all landowners to gain access to the property. Disturbing vegetation throughout the access areas will be kept at a minimum to limit impact to the landowners' property, and any vegetation that is removed during the course of the project will be replaced prior to the departure of the EPA contractor.

3.0 TECHNICAL APPROACH

As stated under TO 0065, the contractor will provide all the necessary personnel, equipment and materials to perform the work set forth below. Additional technical direction will be provided by the OSC through daily work orders.

The contractor shall perform the following activities:

- Establish command post in office trailer
- Mobilize crew to site
- Update existing Work Plan

- Update Health and Safety Plan
- Install perimeter fence and signage
- Construct a decontamination area
- Building Preparation
- Excavate soil (inside)
- Install SVE (inside)
- Restore area (inside)

3.1 Mobilization

The setup of a field office trailer equipped with electric utilities, including phones and internet service, will be the first step in operations. The command post will consist of a 10' x 44' office trailer, powered by a 50 kw diesel generator. The location of the site office trailer is on 272 State Route 46, Dover, New Jersey, which is in close proximity to the Rockaway site.

Once the Work Plan and Health and Safety Plan (HASP) have been completed and approved, Earth Tech will mobilize its personnel to the site to assist with the remaining task The ERRS crew will include 2 equipment operators, 2 cleanup technicians, and one field accountant.

3.2 Perimeter Fence and Signage

The perimeter fence shall be installed utilizing 6"T-post driven into the asphalt parking lot. It will be secured utilizing cable ties. The fence shall encompass the entire Hot Zone (HZ), Contamination Reduction zone (CRZ), Decontamination zone (Decon) and the staging area. EarthTech shall make the area as small as possible to allow for the flow of traffic for the surrounding businesses.

3.3 Decontamination

All equipment shall be decontaminated before leaving the CRZ. Due to the volatilization of PCE decontamination will primarily be a dry method. Gross removal shall take place in the HZ, the equipment will be brought to the CRZ where it will continue to be cleaned utilizing a dry method. If the dry method is found to be unsatisfactory by the EarthTech supervisor a wet method shall be employed. The wet method will consist of a 3000 psi pressure washer. All water generated shall be collected and stored in the appropriate containers i.e. DOT shippable drums or a storage tank depending on the volume generated. Water shall be sampled and disposed or accordingly.

PHASE I

3.4 Building Preparation

A storage container will be placed on site for the storage of any items removed from the building. The property owner will maintain control of the keys to allow access to their property at all times. Once all items are removed from the interior of the building an interior barrier wall will be constructed. The wall will consist of a 2x4 structure covered in 6 mil polyethylene (Poly). The poly shall be large enough to

allow it to be secure by adhesive (tape). The wall shall be insulated to prevent heat loss. A second layer of 6 mill poly will be installed on the insulated side. Foam insulating weather stripping will be utilized at the interface of the temporary structure and the existing structure to aid in the sealing of the two surfaces. The existing garage door will be removed and stored, it shall be re- installed at the completion of the interior phase of the project. A temporary door shall be installed while the excavation is underway to aid in security of the site. The door will be constructed of 2 x4 and ¾" plywood. The door shall have a hasp and secured with a padlock. The keys shall remain in the care of EarthTech to maintain the control of the Hot Zone (HZ).

3.5 Concrete Slab Removal

To facilitate the removal of contaminated soil the existing concrete slab must be removed. Per the design drawings the floor shall be saw cut 1 foot from any existing walls. The floor will then be cut into smaller sections to facilitate the removal from the building into a roll off. The saw cuts will be made utilizing a walk behind concrete saw with a Diamond embedded blade. The saw shall be air powered to eliminate the build up of CO.

3.6 Excavation of Contaminated Soil

A Mini-excavator will me utilized in the removal of the PCE contaminated waste. Preferably the excavator will be either propane or electric. If a diesel powered machine is utilized it shall have an exhaust scrubber and exhaust fans may be used to remove any excess Co gases from the area. A Carbon Monoxide monitor will remain in the excavated area; an additional unit will be placed in the adjoining Business (All American Floors). The meters will remain in the areas for an additional 30 minutes after the days operations has ceased.
The excavated soil will be transferred from the excavator to a tracked skid steer. The skid steer will transport the waste to a roll off that will be staged in the construction area. Water shall be utilized to prevent any dust migrating from the impacted area. Water shall be control so excess runoff shall not occur. If utility lines/ pipes are encounter the soil shall be excavated around them, they will be supported till the area can be backfilled, if this can't be accomplished in a safe and efficient manner the utilities shall be relocated.

3.7 Vapor Extraction System Installation

A Soil Vapor Extraction (SVE) system shall be installed to remediate the remaining soils that are contaminated above the site specific cleanup. The SVE system shall be installed according to the Design Analysis Report provided by the Army Corps of Engineers. A New Jersey State licensed contractor shall be used for the installation of this system. The system shall be installed in two phases, the interior and exterior portions of the system shall be installed as the excavation and backfilling permits.

3.8 Restoration

Area will be restored using certified clean backfill. All soils entering the site will be analyzed by an EPA approved laboratory. Parameters shall be determined by the EPA. The interior area will be excavated and backfilled before the outside excavation can take place so the integrity of the structure isn't undermined.

All affected areas shall be restored as close as possible to the way they exist now unless EarthTech is directed by the EPA to make changes.

3.9 Spill Prevention

Preventing oil spills from occurring is preferable to containing spills that have occurred. Prior to any on-site operation, a THA to determine potential dangers involved with work practices will be made to assess the possibilities of any discharge or spill of crude oil, or any liquids with the exception of clean water, on the ground. Work activities may also involve the use of hazardous materials (e.g., fuels, solvents). Every effort will be made to prevent all spills, including hydraulic oil or diesel fuel leaking from trucks and heavy equipment. All hazardous material will be stored in its appropriate containers. Tops and lids will be placed back on containers after use and any containers of hazardous materials will be appropriately stored away from moving heavy equipment. Any leaking hydraulic lines will be addressed and repaired as soon as possible. If a diesel tank is required for re-fueling equipment, it will be equipped with a secondary containment around the primary tank. The fuel tank will be capped, locked, and kept away from any direct routes that may lead to the wetland areas.

If an unforeseen oil spill does occur during operations, spill response materials will be readily available on site. The Project Accountant will be directly responsible for ordering supplies of boom, oil-absorbent pads, speedy dry, and mason sand during the course of the project.

PHASE II

3.10 Asphalt / Concrete Removal

Asphalt / concrete shall be saw cut utilizing a walk behind concrete saw. The pieces will be removed utilizing an excavator or skid steer to be determined at the time of removal. It will be loaded into a roll off, analyzed and sent to a disposal / recycle facility.

3.11 Excavation of contaminated soils

A Mini-excavator will me utilized in the removal of the PCE contaminated waste. The excavated soil will be transferred from the excavator to a tracked skid steer. The skid steer will transport the waste to a roll off that will be staged in the construction area. Water shall be utilized to prevent any dust from migrating from the impacted area. Water shall be control so excess runoff will not occur. The initial excavation shall be to the depth of 4’ at that time post excavation samples shall be collected to determine if additional excavation is required. Due to the turn around Time (TAT) the area can’t be backfilled until the results have been processed. This could take 24-48 hours. During this time the excavation shall be covered in 6 millimeter Polyethylene sheeting and secured in place utilizing sand bags. High visibility fence and caution tape shall be placed around the perimeter of the excavation to prevent personnel from walking into the excavation.

a. If samples taken are determined to be clean the area shall be backfilled.
b. If samples are still above the site specific cleanup limit, additional excavation shall take place. The soil shall be removed an additional 2 feet horizontally and samples will be taken again. This shall take place until the samples are below the action level, ground water is encountered, or EarthTech is directed by the EPA to discontinue the excavation. Excavations

greater than 4' shall be stepped back at a 1 to 1 ratio to eliminate the possibility of collapsing the excavation. When the excavation is complete the area will be backfilled.

3.12 Back fill

The area shall be backfilled utilizing clean fill. All proposed sources of fill shall be approved by the USEPA. Documentation will be provided to the USEPA from the source of the fill it shall contain the (1) Name of supplier, (2) location where the fill was obtained, including the street, town, block, county, state and a brief history of the site, (3) a certification from the supplier stating that, to the best of the supplier knowledge, the fill being provided is not contaminated pursuant to the above and a description of the steps taken by the supplier to confirm such. If directed to do so EarthTech shall obtain a sample from the source and send it to an USEPA approved lab for analytical testing.

3.13 SVE installation (Exterior)

After the backfill of the affected area is complete, the exterior portion of the installation will take place. The sub contractor shall drill the bore holes for the vertical extraction point and install the remaining components per the design plan provided by the Army Corps of Engineers.

3.14 Restoration

New asphalt and concrete will be restored in the areas where it existed prior to the excavation. All fencing and signage shall be removed. The area will be seeded and covered in straw.

3.15

Appendices

Appendix A

Appendix B

Appendix C

Resource Table

Appendix D

Schedule